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Rural Telephone Coalition

March 12, 1997

EX PARTE OR LATE FILED

Mr. William Caton
Federal Communications Commission
1919 M Street, N. W., Room 222
Washington, D.C. 20554

RE: Written Ex Parte Presentation
CC Docket No. 96-45

Dear Mr. Caton:

The purpose of this letter is to inform the Commission that the Rural Telephone Coalition has submitted a written ex parte presentation responding to a request by John Clark of the Commission's Carrier Bureau Staff. The presentation consists of additional information on the nature of the services necessary for the provision of health care and the cost and prices of high capacity lines needed to provide the services in rural areas.

In accordance with Section 1.1206(a)(1), the RTC is submitting an original and two copies for the public record in this proceeding.

Very truly yours,

L. Marie Guillory

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Regulatory Counsel
for National Telephone Cooperative
Association

No. of Copies rec'd 0+2
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SERVICES NECESSARY TO PROVIDE HEALTH CARE

COST DIFFERENCES BETWEEN URBAN AND RURAL AREAS

In its Recommended Decision, the Joint Board decided that it needed more information to determine specifically what services are needed for rural health care providers and how the charges of carriers differ for these services between urban and rural markets. In its December 19, 1996 comments, the Rural Telephone Coalition (RTC) stated that it would comment further on the core services which should be supported, the determination of the rate at which services will be provided, how universal service support should be constructed, the definition of rural health markets, and additional issues the Commission needs to take into consideration. This brief paper and the attachments hereto address the issue of "additional services" and provide information on cost differences between urban and rural areas.

Core Services To Be Supported

The Commission requested additional information on the exact scope of services that should be included in "additional services." It also requested comments on whether it should limit support to a specific level of bandwidth capacity.

The RTC believes support should not be limited to specific bandwidth capacity levels. Section 254(h) defines the limits of what services must be provided under this Section by reference to telecommunications services "necessary to the provision of health care services in a State." Bandwidth or other narrow service descriptions should not be used to thwart the purposes of the Act. Different rural areas and different health care providers will have different needs. The health care "needs" of rural areas are unique as a result of a combination of factors that make medical care less available in rural America even for rural residents with adequate insurance coverage.[1] The attached Report on Health Care Needs, Resources and Access in Rural America provides ample data demonstrating that rural areas have greater health care needs and fewer

[1] The number of active physicians per 100,000 residents in rural areas is less than half that of urban areas. *See* Reardon, *The Presence of Hospital Systems in Rural Areas*, 30 Journal of Economic Issues, (September 1996).

resources to meet them.[2] In this context and environment, the Act requires consideration of a variety of broadband services as necessary in the provision of health care to rural areas.

The Commission should also look to the experimental services already provided in rural areas as indicators of what services are "necessary" in different contexts. Internet access alone certainly does not satisfy the definition of "necessary" in rural areas. Evidence of the types of telecommunications services needed by health care providers has already been submitted by the Office of Rural Health Policy of the Department of Health and Human Services, Health Resources and Services Administration. That data indicates that providers require a variety of broadband services including T-1 in most projects that involve medical networks.[3]

The RTC urges the Commission to adopt a definition that is broad enough to accomplish the statutory goal. Such a definition would necessarily encompass a variety of broadband services and go beyond Internet access and the "core" services included in universal service but should be limited to telecommunications services provided by telecommunications carriers. The RTC believes the huge additional cost of end user equipment and other constraints on health care costs will prevent abuse of a mechanism based on a broad view of services eligible for the credit.

The Rates for Services

The Act states that a telecommunications carrier shall be entitled to have the difference in rates for urban areas and rural areas treated as a part of its obligation to participate in the mechanisms to preserve and advance universal service. The Joint Board makes recommendations about the definition of rural and comparable urban rates but does not clearly recommend that carriers receive credits based on the total cost differences involved in providing services to rural health care providers in rural areas. The RTC recommends that the Commission make it clear that differentials based on the distance requirements of providers are included in the costs eligible for support. Rural telemedicine projects enhance the provision of medical care to rural residents precisely because they involve linkages to distant expert facilities or educational

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2. Attachment 1, NRECA Report on Health Care Needs, Resources and Access in Rural America submitted by permission of author.

[3] Attachment 2. The materials submitted by HHS are resubmitted for the convenience of the Commission.

institutions. Funding should take account of cost differences due to distance as well as other factors.

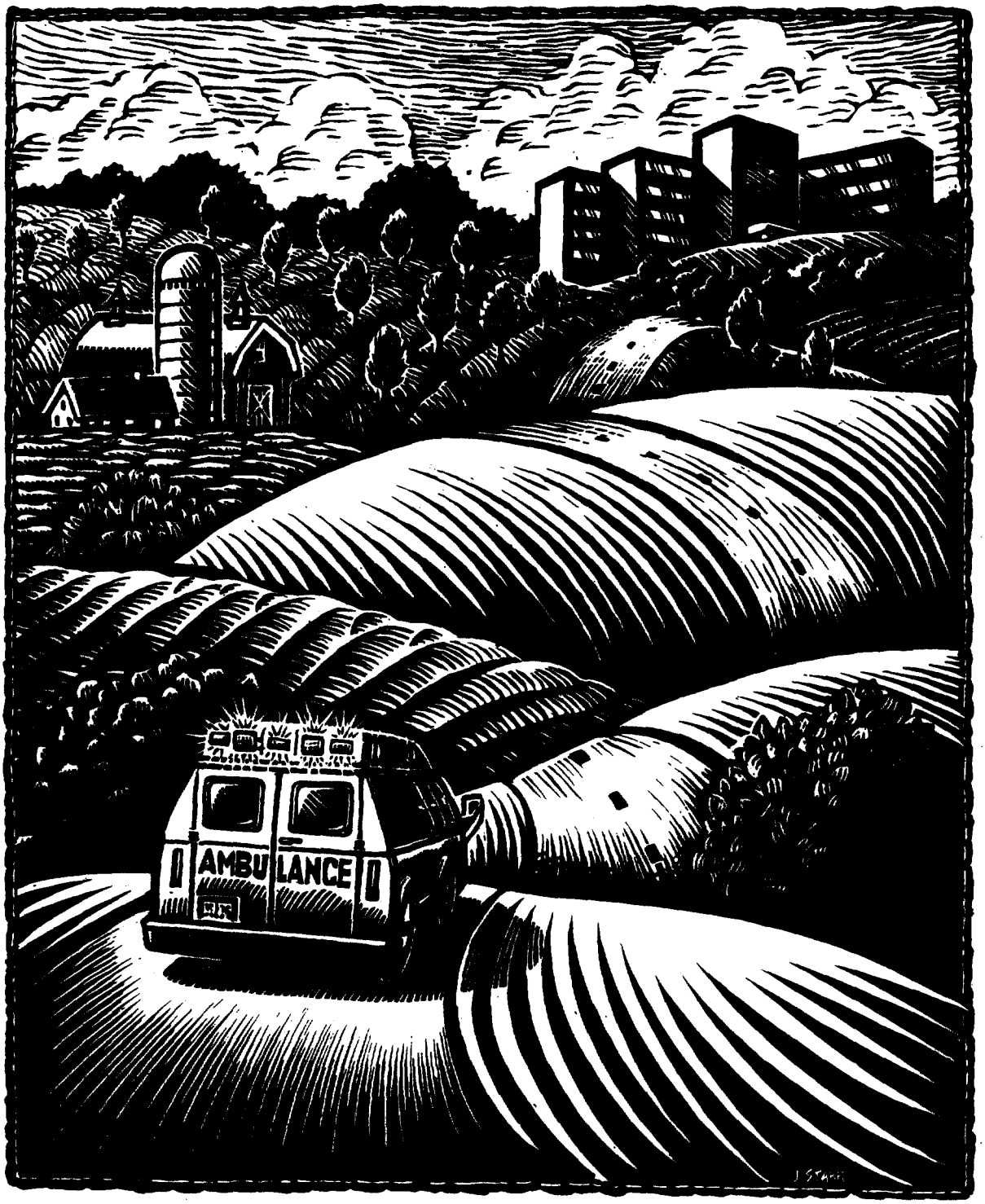
The publicly filed tariffs of Tier 1 companies and NECA pool companies demonstrate the extent of these cost differences.[4] A 6-mile DS1 would cost $569.44 purchased from a Bell Operating Company in Density Zone 1 and $672.18 from a Traffic Sensitive Pool member, a difference of $102.74. While telemedicine applications in urban areas may involve 6-mile distances, for the health care provider located in a remote rural area, a 30-mile distance is more likely to be the shortest distance it would need for telemedicine applications utilizing the facilities of larger hospitals or other experts. When the cost of six circuit miles is compared to 30, the differential is $414.17.

[4] Attachment 3, Charts and tariffs comparing NECA rates to Tier 1 carrier rates.

ATTACHMENT 1

THE NRECA REPORT ON

Health Care Needs, Resources, and Access in Rural America



SPRING 1994

This report was published by the National Rural Electric Cooperative Association's Retirement, Safety and Insurance Department. For copies, contact RS&I's legislative representative at 1800 Massachusetts Avenue, NW, Washington, DC 20036. Telephone (202) 857-9633.

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HEALTH CARE NEEDS, RESOURCES and ACCESS in RURAL AMERICA

A Report for the

National Rural Electric Cooperative Association

Spring 1994

Final Report

The author thanks Deborah J. Chollet of the Alpha Center, William Custer of the Employee Benefit Research Institute, and Glenn Nelson of the Rural Policy Research Institute for valuable comments on a review draft. Any remaining errors remain the responsibility of the author.

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Executive Summary

This report updates a review of rural health care issues published by NRECA in 1989. The report finds that many rural residents continue to be less healthy than urban residents, and are less able to afford adequate health care. They are less likely than urban residents to benefit from tax incentives and government spending programs aimed at making care more available and more affordable. Poverty, rural economic decline, the demands of an aging population, and geographic constraints further complicate health care delivery and financing.

The number of physicians in rural areas continues to increase, but remains short of desirable levels. Shortages of primary care physicians remain particularly acute; the number of rural residents living in primary care shortage areas increased by 25 percent since the last NRECA report. Rural physicians tend to be older than those in urban areas, raising the prospect of large waves of retirements. Rural areas also experience high rates of physician turnover for reasons other than retirement. A major influence on physician location decisions appears to be training; physicians and other health professionals receiving some part of their training in rural areas are likely to locate in these areas.

Other health care personnel are also needed in rural areas. Nurses and mid-level practitioners can deliver some health care, but their ability to do so often remains limited by restrictive reimbursement practices and licensing rules.

Rural hospitals are facing fiscal problems that have been exacerbated by the Medicare Prospective Payment System. A variety of rural health care delivery and organization models have been developed or adapted to fit rural circumstances, including "downsized" hospitals and rural health maintenance organizations. No matter how rural hospitals develop in the future, one of their major functions will continue to be the provision of emergency medical services. These services need additional financing and improved organization to adequately meet rural needs.

Despite resource shortages, rural residents tend to use similar amounts of health care as urban residents. Rural residents continue to be less likely to have health care coverage, however, and pay a larger share of their own health care expenses, even at the lowest income levels. The rural poor continue to be less likely to be enrolled in Medicaid than the urban poor.

The analysis in this report suggests a rural health care action agenda based on expanding health care coverage; increasing our understanding of medical needs, outcomes, and treatment modes; meeting the needs of providers; and encouraging organizational innovation.

As the health care reform debate intensifies, rural health care needs are receiving growing attention. Both rural residents and the providers who serve them would benefit from expanded health care coverage, which would increase the flow of cash into rural health systems. Rural residents and providers are more dependent on Medicare and Medicaid than urban residents, however. As a result, financing health care reform by reducing spending on these programs could harm rural areas. Health care reform must also increase the availability of appropriate health care providers, and provide flexibility in program design to accommodate the diversity of rural areas.

I. INTRODUCTION AND PLAN OF THE REPORT

In 1989, the National Rural Electric Cooperative Association (NRECA) published a report examining the status of rural health in the U.S. and policy options for its improvement (Analytical Services, 1989). The report identified relationships among key rural health policy issues and programs. The report was spurred by growing policy and research interest in rural health care.

The present report updates that analysis. It reviews recent trends in rural health care as well as recent research on rural health care policy options.

As this report is written, the U.S. is debating the most significant social reform in at least a generation. Congress, the Clinton Administration, and the public have begun to debate comprehensive health care reform. When Hillary Rodham Clinton testified before Congress on the President's plan in September, 1993, there was general acceptance of the plan's central premise that everyone is entitled to irrevocable lifetime health insurance. The President's proposal was greeted with a serious discussion of the elements of an affordable and accountable system.

Health care markets are inherently local. As a result, new ways to organize health care have to take account of the special needs and characteristics of rural communities.

This report investigates how far rural America has traveled in the past four years, assesses remaining unmet needs, and investigates policy options for providing health care equity for all Americans. The report concludes that significant rural health care needs remain unmet. Rural residents continue to be sicker than urban residents, and their lives continue to reflect this fact. Rural health care resources, while improving on some measures, remain inadequate both in comparison with resources in urban areas and in relation to rural needs.

The second section of this report describes the economic condition of rural areas. The third section examines rural health care status, resource availability, and access. The fourth section discusses the health care reform debate and the special concerns of rural areas. The report concludes with an action agenda for improving rural health care financing and delivery.

II. THE RURAL SETTING

A dominant characteristic of rural economies is their diversity. Some rural areas are agricultural and sparsely settled. Others are physically and economically linked to major urban areas. The makeup and condition of rural economies influences their health care needs and their ability to meet these needs.

DEFINING RURAL AREAS

The definition of rural areas used to present demographic and health data can make a major difference in urban and rural comparisons (Office of Technology Assessment (OTA) 1989). There is no one universally used definition of rural areas. Two definitions have been developed by the U.S. Bureau of the Census:

- Towns with a population of fewer than 2,500 or areas of open country.
- Nonmetropolitan or rural counties are those without a central city or twin cities of 50,000 or more in population.[1] Most statistical data on rural areas are compiled using this definition.

Nearly 77 percent of the nation's counties are rural, but rural areas contained only 20.6 percent of the U.S. population in 1990. This share was down from 23.1 percent in 1987.

Rural and urban states differ significantly in population density, an important influence on the design of health care systems. Montana, the nation's most rural state, has an average of 5.7 persons per square mile, while New Jersey, which contains no rural areas, averages 1049.9 persons per square mile (Table 1). Rural states also differ in population density from each other. For example, Vermont, with 61.6 persons per square mile, is nearly 13 times as densely populated as Wyoming.

Rural states appear to be experiencing significant changes in population distribution. In three of the most rural states, for example -- Vermont, Idaho, and Wyoming -- the share of the population living in rural areas is smaller than it was four years ago (Table 1).

RURAL ECONOMIES

Between 1979 and 1986, the economic character of rural counties changed dramatically. Less than 2 percent of U.S. Gross Domestic Product (GDP) is derived from mining and less than 20 percent from manufacturing, but more than 30 percent of rural counties depend heavily on one or both of these industries.

In 1979, nearly 30 percent of rural counties derived at least 20 percent of their income from farming (Table 2). By 1986, this share had fallen to less than 22 percent. The proportion of both manufacturing-dependent counties (30 percent of income or more) and mining-dependent

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[1] The terms "rural" and "nonmetropolitan" are used interchangeably in this report.

Table 1.

Population Features of Selected Urban and Rural States, selected years

State	Percent Rural		Population Per Square Mile, 1992
	1988	1992	
Five most rural states:			
Montana	75.8	76.1	5.7
Vermont	76.8	73.1	61.6
Idaho	80.0	70.6	12.9
Wyoming	70.8	70.4	4.8
Mississippi	69.5	69.9	55.7
Five most urban states:			
New Jersey	0.0	0.0	1049.9
California	4.3	3.2	197.9
Massachusetts	9.4	3.8	765.3
Connecticut	7.4	4.3	677.2
Rhode Island	7.4	6.5	961.8

Source: U.S. Bureau of the Census, Statistical Abstract of the United States 1993 (Washington, D.C.: U.S. Government Printing Office, 1993), Tables 31 and 41; Statistical Abstract of the United States 1990, Table 35.

Table 2.

The Economic Base of Rural Counties, 1979 and 1986

Type of County (Criterion)	Number a/ 1979	1986
Farming dependent (20% of income +)	716	516
Manufacturing dependent (30% of income +)	621	577
Mining dependent (20% of income +)	155	124
Specialized government (25% of income +)	233	358
Persistent poverty (Lowest income quintile)	242	b/
Federal lands (33% of land +)	247	b/
Destination retirement (Net elderly inmigration 15% +)	515	b/
Frontier (Fewer than 6 persons per square mile)	394	b/
All rural counties	2443	2357

Sources: Thomas F. Hady and Peggy J. Ross, Update: The Diverse Social & Economic Structure of Nonmetropolitan America Staff Report No. AGES 9036 (Washington, D.C.: USDA, ERS, 1990), and David E. Berry et al., "Frontier Hospitals: Endangered Species and Public Policy Issue," Hospital and Health Services Administration 33 (Winter 1988): 481-496.

a/ Detail does not add to total number of rural counties as some counties met the criteria for inclusion in more than one category. Totals represent net changes; in each group, some formerly rural counties became urban while some formerly urban counties became rural.

b/ Not updated.

counties (20 percent of income or more) remained constant, but the number in each category declined.

Rural economies thus remain less diversified internally than the rest of the nation, being more likely to depend on one or two industries. As a result, cyclical or long-run declines in any one industry are more likely to create economic devastation in rural than in urban areas. Similarly, the greater internal homogeneity of rural areas can make their health care needs more specialized than those of urban areas.

THE PERFORMANCE OF RURAL ECONOMIES

The character, economic performance, and demographic composition of rural areas influence their health care needs and the resources available for meeting these needs. Rural economies underperform the rest of the nation in growth, income, and employment. High rates of poverty increase health care needs, but restrict the resources available to meet these needs. Low growth, in turn, means that much of rural America will be unable to solve these problems without help.

GROWTH IS SLOWER

One of the dominant facts of American economic life is that goods-producing industries are increasingly giving way to service-producing sectors. While rural areas are losing goods-producing employment, however, they are benefiting less than urban areas from growing employment in services.

In 1986, the most recent year for which detailed rural county data are available, rural areas derived more than one third of their employment from goods-producing industries. By comparison, the nation as a whole depended on goods-producing industries for less than one quarter of employment. Employment in goods-producing industries declined by about 1 percent annually between 1979 and 1986. Rural areas are thus more vulnerable to the cyclical and long-term problems facing goods-producing industries.

Some of the decline in rural goods-producing employment was offset by employment growth in service sectors. Rural employment in services grew more slowly than the national rate, however, rising only 2.1 percent per year, compared with the national rate of 2.4 percent (calculations based on USDA (1990) and Executive Office of the President (1993)).

The slower growth of service employment in rural areas suggests that many rural areas are poorly positioned to compete in the service sector. To the extent that service markets are local, for example, small and isolated communities may be at a disadvantage in competing for

such employment (Cordes 1989). The health of locally-oriented service industries depends on population growth, which many rural areas may not be able to provide. Rural employment grew only 6.9 percent between 1979 and 1986, compared with a national rate of 10.8 percent. With low employment growth, rural areas are less likely to attract new residents, further reducing their long-term prospects.

POVERTY IS HIGHER

Nearly 76 percent of the population below poverty resides in urban areas, but poverty rates among nonelderly rural residents are over 16 percent higher than among urban residents (calculations based on Foley (1993)). States with predominantly urban populations had an average poverty rate of 11.5 percent in 1990, while those with primarily rural populations had an average poverty rate of 15.4 percent (Table 3).

Rural poverty also differs in character from urban poverty. The rural poor are more likely to be employed than the urban poor (Porter 1989).

YOUNG AND OLD IN RURAL AMERICA

Rural states have more of both the young and the old than the national average. Both groups create special health needs.

Nationwide, children under age 18 make up 25.9 percent of the population, but this share rises to 27.0 percent in states with majority rural populations (Table 3). Large numbers of young people create special income security and health care issues. Poverty among persons of all ages was 13.5 percent in 1990, for example, but the rate among children was 19.9 percent. With their larger relative numbers of children, rural states will face greater burdens in caring for children.

Health care for pregnant women, infants, and children is also becoming an increasingly serious public policy concern. Among rural families with children, 84.6 percent had health care coverage in 1992 (Foley 1993). Among urban families with children, in contrast, 85.7 percent had coverage. Rural areas thus have higher child health care needs and fewer resources to meet them.

In 1992, 13.5 percent of the population of majority-rural states was 65 years old or older, compared with a national average of 12.7 percent (Table 3). Elderly residents use more health care than younger groups, and thus need to live in closer proximity to health care providers and facilities.

Table 3.

Selected Demographic Characteristics of States
by Rural Character, 1992 a/
(in percents)

State category (Average percent rural)	Age Distribution		Percent in Poverty b/
	Under 18	65 or older	
Urban states c/ (12.6%)	25.7%	12.6	11.5%
Mixed states d/ (35.5)	26.4	12.5	13.8
Rural states (63.5)	27.0	13.5	15.4
All states f/ (20.6)	25.9	12.7	13.1

Source: Author's calculations based on U.S. Bureau of the Census, Statistical Abstract of the United States 1993 (Washington, D.C.: U.S. Government Printing Office, 1993), Tables 35, 41, and 741.

a/ Population data for 1992; percent rural based on 1990 data updated to 1992.

b/ 1990 rates.

c/ States with fewer than 25 percent rural residents: New Jersey, California, Maryland, Rhode Island, Connecticut, New York, Florida, Massachusetts, Pennsylvania, Nevada, Illinois, Washington, Texas, Colorado, Michigan, Arizona, Ohio, Utah, Virginia, Delaware.

d/ States with 25 to 49 percent rural residents: Louisiana, Indiana, Oregon, Tennessee, Minnesota, Alabama, Wisconsin, Missouri, Georgia, South Carolina, Oklahoma, North Carolina, New Hampshire, Kansas, and New Mexico.

e/ States with 50 percent or more rural residents: Nebraska, Kentucky, Iowa, North Dakota, Arkansas, West Virginia, Maine, Mississippi, Wyoming, South Dakota, Montana, Vermont, Idaho

Nearly all the elderly are covered under Medicare, the health care coverage component of the Social Security program. However, Medicare spending growth has been significantly restrained in recent years, in large part by reducing growth in reimbursement rates for providers. The combination of spending restrictions and declining rural health resources can reduce the value of the Medicare promise by making health care more difficult for beneficiaries to obtain.

III. THE STATE OF RURAL HEALTH CARE

Rural health needs and resources can be measured by several aspects of the rural health care system. No one aspect alone summarizes rural health conditions, but, taken together, they can suggest how well the system is meeting rural health needs, both absolutely and in comparison with urban areas.

Needs are generally measured by a group's health status or condition. The larger the number of medical problems, diseases, incapacities, or disabilities in a given group, the greater its need for health care resources and services.

The health care system's response to these needs can be measured in a number of ways. At least five dimensions of access to health care have been identified by health care researchers: availability of resources; accessibility, including affordability and ease of using services; acceptability, or satisfaction with the care received; contact, or the process of receiving care; and effectiveness, or the outcome of care (Patrick al. 1988).

This report uses measures of availability and access to care as indicators of the health care system's response to rural needs. These two concepts are sometimes used interchangeably, but they are not equivalent. In this report, availability will refer to the geographic distribution of health care providers and facilities. While some people travel far for medical care -- hospitals like the Mayo Clinic treat patients from around the world, for example -- most health care facilities and services are obtained locally.

Access to care will be measured by utilization, or the patient's contacts with health care providers. Utilization can be a more meaningful measure of the health care system's performance than simple availability of resources, because the former reflects such additional factors as the affordability of care. Patients unable to pay for care often cannot use otherwise available health care providers or facilities.

Measures of health care use can sometimes be supplemented by measures of the quality or effectiveness of care provided. Research on urban and rural patterns of medical practice and outcomes suggests that there are significant differences in the type of care provided in urban and rural settings. However, there is relatively little known about the comparative efficacy of different modes of medical practice. In addition, urban-rural practice differences will not always

translate into differences in the quality of care available to urban and rural residents, since many rural residents obtain care from urban providers (Korczyk and Witte 1991).

RURAL HEALTH CARE NEEDS

Rural life is popularly believed to be healthy. Like many stereotypes, this image has little to do with reality.

Four years, ago, the NRECA report found that rural residents are sicker than urban residents, they know it, and their lives reflect it. On most measures of health status and the impact of health status on people's lives, this statement continues to be true.

The National Center for Health Statistics, an agency of the U.S. Public Health Service, conducts surveys to determine the prevalence of various acute and chronic health conditions,[2] use of medical services, and other aspects of the health care system.

ACUTE AND CHRONIC CONDITIONS

Acute conditions are somewhat more prevalent in urban than in rural areas. Urban residents experienced an average of 1.94 acute conditions in 1991, compared with 1.83 for rural residents (Table 3). Urban residents were slightly more likely than rural residents to seek medical attention for these conditions.

Chronic conditions, on the other hand, are more prevalent in rural areas. Out of 59 selected chronic conditions, the NHIS discovered an average of 1.76 conditions per urban resident and 2.04 per rural resident in 1991 (Table 3).

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[2] The National Health Interview Survey (NHIS), conducted by the Center, defines a condition as acute if it was first noticed less than three months before the interview and was severe enough to have caused the person to reduce his or her activities for at least half a day or consult a physician. Examples of acute conditions include infective diseases, respiratory and digestive conditions, and injuries. A chronic condition is one that was noticed more than three months prior to the interview, or, alternatively, one of certain conditions, such as asthma or diabetes, that are considered chronic regardless of when they were first observed.

Table 4.

Selected Measures of Health Status by Type of Area, 1991

Measure	Metro	Nonmetro
Acute conditions per person/year	1.94	1.83
percent medically attended	63.2	62.0
Chronic conditions per person/year	1.76	2.04
Restricted activity days per person/year	7.4	7.1
bed days	3.2	3.0
days lost from work	3.3	2.8
days lost from school	4.2	4.0
Percent with activity limitations	13.6	16.8
Percent in fair or poor health a/	9.3	12.2
Injury rates per 100 persons		
Injuries	23.3	24.0
Injuries at work	4.4	5.9

Sources: U.S. Department of Health and Human Services, National Center for Health Statistics, Vital and Health Statistics: "Current Estimates from the National Health Interview Survey, United States, 1991," Series 10, No. 184 (Washington, D.C.: U.S. Government Printing Office, 1992).

a/ Self-reported health status.

ECONOMIC AND SOCIAL COSTS OF ILLNESS

Illness affects the lives of urban and rural residents in different ways. Both urban and rural residents experienced an average of just over 7 days of restricted activity days resulting from acute and chronic conditions in 1991 (Table 3).

Rural residents, however, are more likely to experience health-related limitations in their major activity. Such limitations were reported by 16.8 percent of rural residents and 13.6 percent of urban residents.

In 1991, urban residents experienced 23.3 injuries per 100 persons, compared with 24.0 per 100 rural residents (Table 3). The nature of injuries incurred in rural and urban areas differs. In particular, rural residents are significantly more likely than urban residents to be injured at work. Rural residents experienced nearly 6 injuries at work per 100 persons in 1991, compared with 4.4 among urban residents (Table 3).

Higher rural occupational injury rates reflect the economic makeup of rural areas. Agriculture and mining, two occupations that are carried on primarily in rural areas, are the nation's most dangerous occupations. Annual death rates total 44 per 100,000 workers in agriculture and 43 per 100,000 in mining, compared with 9 per 100,000 for all industries (U.S. Bureau of the Census 1993).[3] Urban residents, on the other hand, are significantly more likely than rural residents to die of homicide.

URBAN AND RURAL RESIDENTS' OPINIONS OF THEIR HEALTH

Respondents' own assessments of their health reflect their satisfaction or well-being. Both urban and rural residents tend to think they are healthier than more objective measures of health status suggest.[4] Rural residents' self evaluations reflect their poorer health, however. More than 9 percent of urban residents think their health is only poor or fair, compared with just over 12 percent of rural residents (Table 3).

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[3] On the other hand, occupational injury and illness rates in both agriculture and mining are lower than in either construction or manufacturing, suggesting that injuries in the former two industries, while less prevalent, are likely to be more serious.

[4] Differences between self-assessed and objective measures of health status could reflect the fact that objective measures do not weight conditions according to their medical seriousness. Color blindness and acne are unlikely to be as debilitating as arthritis, for example, but simple counts of incidence give equal weight to all conditions.

Thus, based on many objective and subjective measures of health status, rural residents continue to be less healthy than urban residents and incur more of the resulting personal and economic costs.

RURAL HEALTH CARE RESOURCES

This section reviews the availability of health care resources in rural areas. Rural areas face chronic problems in obtaining enough health care personnel and maintaining adequate facilities.

RURAL PHYSICIANS

The physician is the cornerstone of the health care system. Depending on state licensing laws, mid-level practitioners such as nurse practitioners and physician assistants can deliver an important share of patient care, but physicians must be available for referrals and consultation.

Trends in Physician Availability

Four years ago, the NRECA report found that the number and distribution of physicians in rural areas were improving, though both remained below desirable levels. Physician-to-population ratios have risen in both urban and rural areas in the intervening years, and the increase has been larger in rural than in urban states. Between 1987 and 1990, physician-to-population ratios in urban areas increased by 3.1 percent in urban states, but 4.1 percent in states with significant rural populations and 3.3 percent in states with majority rural populations.[5]

In 1990, the U.S. had 216 patient-care physicians for every 100,000 persons (Table 4). Predominantly urban states had nearly 42 percent more physicians relative to population than predominantly rural states, however (calculation based on data in Table 5). States with significant rural populations had relatively more physicians than majority-rural states, but still fewer than either urban states or the nation as a whole. Rural states also had fewer dentists per 100,000 persons than either urban states or the nation as a whole.

Rural counties with high minority concentrations face particular problems with physician availability. In 1990, rural counties with predominantly black populations had 76 percent as

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[5] Author's calculations based on U.S. Bureau of the Census, various years.

Table 5.

Health Care Personnel per 100,000 Population
by Rural Character of State, 1992 a/

Category	Physicians b/	Dentists	Nurses	% Physicians Primary Care
Urban	231	64	725	27.9
Mixed	183	52	667	30.9
Rural	163	51	738	36.1
All states	216	61	702	29.1

Source: Author's calculations based on U.S. Bureau of the Census (1993), Table 193. Primary care physicians estimated by author based on U.S. National Center for Health Statistics, Health, United States 1990 (Washington, D.C.: U.S. Government Printing Office, 1990), Table 87.

a/ For states in each category see footnotes to Table 3. Data for physicians are for 1990, dentists for 1992, and nurses for 1991. Primary care percentages based on .

b/ Excludes doctors of osteopathy.

many physicians per capita as all rural counties, while those with predominantly Hispanic populations had 79 percent as many as all rural counties (Kindig and Yan 1993).

Shortage Areas

The federal health manpower shortage area (HMSA) designation measures the adequacy of the distribution of certain health care personnel across geographic areas. HMSA designations are based on physician-to-population ratios and on population and area characteristics that indicate greater medical need, such as poverty and health status.[6] HMSAs are defined for primary care physicians, dentists, and mental health professionals.

Primary Care

As was the case four years ago, rural residents continue to be more than twice as likely as the nation as a whole to face shortages of primary physicians. At the end of 1992, 14.9 percent of the U.S. population lived in areas with a shortage of primary care physicians (Table 6). In urban areas, however, this share was only 9.8 percent, while in rural areas it rose to 34.8 percent.

More than 70 percent of the primary care shortage areas designated as of the end of 1992 were rural areas, but rural areas contained just over half of the population in primary care shortage areas (Table 6). This difference suggests that rural shortage areas are more sparsely populated than their urban counterparts. Over 45 percent of the primary care practitioners needed were required in rural areas.

While rural areas face greater relative shortages of primary care personnel than urban areas, physicians practicing in rural states are more likely to be primary care physicians than those practicing in urban areas. In predominantly urban states, 27.9 percent of physicians are classified as primary care, while in majority rural states, this proportion rises to 36.1 percent (Table 5). These patterns may reflect the fact that family physicians are more likely than members of other specialties to select rural practice (Rosenblatt et al. 1992).

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[6] There are four HMSA categories, with lower numbers denoting greater severity. Areas are designated based on both need and physician availability. For a full statement of the criteria, see Federal Register, November 17, 1980, pp. 75996 - 76010.

Table 6.

Characteristics of
Health Personnel Shortage Areas, 1992 a/

Personnel and Area	Number of Areas	Population (millions)	Population (percent)	Practitioners Needed
Primary care b/				
all	2271	38.1	14.9	4533
urban	658	18.1	9.8	2481
rural	1613	20.0	34.8	2052
Dental care c/				
all	967	19.3	7.6	1827
urban	234	8.5	4.6	841
rural	733	10.8	18.8	986
Mental health d/				
all	709	51.3	20.1	1823
urban	204	16.0	8.6	702
rural	505	35.3	61.4	1121

Source: Author's calculations based on unpublished data provided by the U.S. Department of Health and Human Services, Bureau of Health Professions.

a/ Totals exclude osteopathic physicians. Percent of urban and rural populations residing in manpower shortage areas based on 1992 population and 1990 urban-rural ratios.

b/ Areas with fewer than 1 primary care physician for every 3,500 persons (3,000 in high-need areas).

c/ Areas with fewer than 1 dentist for every 5,000 persons (4,000 in high-need areas).

d/ Areas with fewer than 1 mental health professional for every 30,000 persons (20,000 in high-need areas.